

SECOND REGULAR SESSION

# SENATE BILL NO. 1249

93RD GENERAL ASSEMBLY

INTRODUCED BY SENATOR ALTER.

Read 1st time March 1, 2006, and ordered printed.

TERRY L. SPIELER, Secretary.

5317S.01I

## AN ACT

To amend chapter 170, RSMo, by adding thereto one new section relating to the Missouri science education act.

*Be it enacted by the General Assembly of the State of Missouri, as follows:*

Section A. Chapter 170, RSMo, is amended by adding thereto one new  
2 section, to be known as section 170.025, to read as follows:

170.025. 1. This section shall be known and may be cited as the  
2 "Missouri Science Education Act".

3 2. As used in this section, the following terms mean:

4 (1) "Substantive", equal to or greater than. Each public school  
5 district may modify or expand this definition as necessary within the  
6 meaning of substantive for local use;

7 (2) "Verified empirical data", information representing physical  
8 reality based on repeated independent human observation,  
9 measurement, and experimentation with consistent results. Verified  
10 empirical data is without significant inference and is not theory,  
11 hypothesis, conjecture, speculation, estimated data, extrapolated data,  
12 or consensus of scientific opinion.

13 3. Public elementary and secondary school science teacher  
14 instruction for sixth grade through twelfth grade courses in physics,  
15 chemistry, biology, physical science, earth science, and other natural  
16 science courses shall comply with the following best practices, subject  
17 to the availability of teaching material, but no later than five years  
18 after the effective date of this section:

19 (1) Teacher classroom instruction shall use the following best  
20 practices to support the truthful identity of scientific information and  
21 minimize misrepresentation while promoting clarity, accuracy, and

22 student understanding:

23 (a) Information that appears to be verified empirical data, but  
24 is not, shall be identified to distinguish it as separate from verified  
25 empirical data. Verified empirical data needs no specific  
26 identification. Inability to determine if specific information is verified  
27 empirical data shall not invalidate such best practice;

28 (b) Information representing scientific thought such as theory,  
29 hypothesis, conjecture, speculation, extrapolation, estimation,  
30 unverified data, consensus of scientific opinion, and philosophical  
31 belief shall be identified to distinguish it as separate from verified  
32 empirical data;

33 (2) Teacher classroom instruction shall use the following best  
34 practices to support the objective teaching of scientific information and  
35 minimize dogmatism while promoting student inquiry, healthy  
36 skepticism, and understanding:

37 (a) When information other than verified empirical data is  
38 taught representing current scientific thought such as theory,  
39 hypothesis, conjecture, speculation, extrapolation, estimation,  
40 unverified data, consensus of scientific opinion, and philosophical  
41 belief, such information shall be within the purview of critical analysis  
42 and may be critically analyzed. Critical analysis includes the teaching  
43 of anomalous verified empirical data, contrary verified empirical data,  
44 missing supporting data, inadequate mechanisms, insufficient  
45 resources, faulty logic, crucial assumptions, alternate logical  
46 explanations, lack of experimental results, conflicting experiments, or  
47 predictive failures where applicable;

48 (b) When information other than verified empirical data is  
49 taught representing current scientific thought such as theory or  
50 hypothesis regarding phenomena that occur in the future or that  
51 occurred previous to written history, a critical analysis of such  
52 information shall be taught in a substantive amount. If a theory or  
53 hypothesis of biological origins is taught, a critical analysis of such  
54 theory or hypothesis shall be taught in a substantive amount.

55 4. No public elementary or secondary school science teacher  
56 shall be refused employment, disciplined, denied advancement,  
57 transferred, or otherwise discriminated against for teaching in  
58 accordance with the best practices in subsection 3 of this section

59 within the time allotted the affected subject matter by the course  
60 curriculum.

61       5. The state commissioner of education shall ensure that any  
62 assessment or competency testing of public elementary and secondary  
63 school pupils for academic performance used by the state and whose  
64 content may be modified by the state complies with the best practices  
65 in subsection 3 of this section by the proper identification of scientific  
66 information and critical analysis. If questions regarding information  
67 within the purview of paragraph (b) of subdivision (2) of subsection 3  
68 of this section are included in a test, questions regarding critical  
69 analysis of such information shall be included in a substantive amount.

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Bill

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